Journal of Pioneering Medical Sciences
Received: April 20, 2025 | Accepted: May 19, 2025 | Published: August 05, 2025
Volume 14, Issue 07, Pages 62-66

DOI https://doi.org/10.47310/jpms2025140711

Quieting the Minds: Self-Medication with Anxiety Drugs in Saudi Arabia: A Cross-Sectional Survey

Anas Ali Alhur[1], Fatimah H. Alamri[2], Dalal Alshahrani[3], Musaad Alzahrani[4], Muhannad Al-Balawi[5], Mohammad Al-Osime[6], Musab Ghanem[7], Waleed Alharbi[8], Omar Nassar[9], Laila Alsadah[10], Badriah Alsaif[11], Tariq Aba Alkhail[12], Boshra Yahya[13], Sara Alblwi[14] and Arwa Ali[15]

[1]Department of Health Informatics, College of Public Health and Health Informatics, University of Hail, Hail 81411, Saudi Arabia
[2]Ministry of Health, Riyadh 11176, Saudi Arabia
[3]MHCS Company, Riyadh 11461, Saudi Arabia
[4,7,13]College of Pharmacy, King Khalid University, Abha 61441, Saudi Arabia
[5,6,9]College of Pharmacy, Taif University, Taif 21974, Saudi Arabia
[8]Department of Pharmaceutical Sciences, Nahdi Medical Company, Jeddah 21442, Saudi Arabia
[10]United Pharmacy, Dammam 32271, Saudi Arabia
[11]College of Clinical Pharmacy, King Faisal University, Al-Ahsa 31982, Saudi Arabia
[12]Saudi German Hospital, Jeddah 21462, Saudi Arabia
[14]College of Pharmacy, University of Tabuk, Tabuk 71491, Saudi Arabia
[15]Department of Psychology, College of Education, University of Hail, Hail 81411, Saudi Arabia

Author Designation: [1,15]Lecturer, [2,3,8,10,12]Pharmacist, [4,5,6,7,9,11,13,14]Pharm D Candidates

*Corresponding author: Anas Ali Alhur *et al.* (e-mail: anas.ali.alhur@gmail.com).

©2025 the Anas Ali Alhur *et al.* This is an open access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0

Abstract **Objectives: Background:** Self-medication with psychotropic drugs, particularly anti-anxiety medications such as benzodiazepines and Selective Serotonin Reuptake Inhibitors (SSRIs), presents a growing public health concern in countries with limited pharmaceutical regulation. In Saudi Arabia, the accessibility of prescription medications without adequate clinical supervision has raised critical questions about misuse and its associated risks, including dependency and adverse health outcomes. Despite increasing use, limited empirical research has addressed the prevalence and underlying factors driving this behavior in the Saudi context. **Objective:** This study aimed to assess the prevalence, knowledge, attitudes and behaviors related to self-medication with anxiety drugs among the Saudi population and to examine sociodemographic variables associated with these practices. **Methods:** A cross-sectional survey was conducted using a structured electronic questionnaire targeting adults across Saudi Arabia. The instrument collected data on demographics, awareness of anxiety disorders and medication side effects, attitudes toward self-medication and self-reported behaviors. Chi-square tests were used to identify significant associations between variables. **Results:** Of the 807 participants, 24.6% reported using anti-anxiety medication without a prescription. While 84.1% had heard of anxiety disorders, only 16.1% identified addiction as a potential side effect. Stress, particularly related to academic or occupational demands, was the most commonly cited motivation. Higher education levels were significantly associated with greater awareness ($p = 0.001$), whereas no significant associations were found with gender. **Conclusion:** The findings indicate a pressing need for targeted health education, improved mental health services and stricter regulatory enforcement. Enhancing public knowledge and ensuring responsible access to psychotropic medications are essential steps toward advancing mental health priorities within the framework of Saudi Arabia's Vision 2030 healthcare reforms.

Key Words Self-Medication, Anxiety Drugs, Benzodiazepines, SSRIs, Mental Health, Saudi Arabia, Prescription Drug Misuse, Public Health, Health Education, Psychotropic Medications

INTRODUCTION

Self-medication with prescription drugs, particularly psychotropic medications such as benzodiazepines and Selective Serotonin Reuptake Inhibitors (SSRIs), has become a prominent global public health concern. This issue is particularly acute in countries where pharmaceutical regulations are inconsistently enforced, allowing individuals to access potentially harmful medications without professional oversight. Anxiety disorders are among the most prevalent mental health

conditions worldwide, contributing significantly to the global disease burden and often prompting individuals to seek quick relief through pharmacological means.

A growing body of literature has explored the drivers and consequences of self-medication behaviors. Shabbir *et al.* [1] found that 55.2% of medical students in Pakistan reported self-medicating, compared to 44.8% of non-medical students, often citing time constraints and previous experience as motivators. Turner *et al.* [2] proposed that individuals with anxiety or mood disorders frequently resort to substance use as a coping mechanism, with up to 24.1% engaging in self-medication with drugs or alcohol. Menary *et al.* [3] further linked self-medication in anxiety populations to increased risk of alcohol dependence. During the COVID-19 pandemic, Chopra *et al.* [4] reported a notable surge in self-medication, attributing this to heightened stress and limited access to healthcare services.

In Saudi Arabia, similar trends have been documented. Alsini *et al.* [5] found that 6.4% of medical students self-prescribed beta-blockers, while Aljhani *et al.* [6] reported that 22.7% of pharmacists used sleep aids without consultation. Additionally, Albawardi *et al.* [7] noted that 9.5% of mental health professionals had engaged in unsupervised psychotropic use. Alhur *et al.* [8] identified elevated awareness of psychotropic medications among youth, yet observed that many obtained these drugs through unregulated channels. However, prior research has not sufficiently examined the combined influence of demographic variables, stress factors and attitudes on self-medication with anxiety drugs within the general Saudi population.

This study aims to fill this gap by evaluating the prevalence, knowledge, attitudes and behaviors related to the self-medication of anxiety drugs among adults in Saudi Arabia. It further investigates the associations between educational attainment, gender and awareness levels.

This paper contributes empirically by offering nationally relevant data on self-medication practices and theoretically by highlighting the disconnect between awareness and behavior. Findings are intended to inform health policy, educational campaigns and regulatory strategies aligned with Saudi Arabia's Vision 2030 healthcare objectives.

METHODS

Study Design

This study employed a cross-sectional observational design to assess the prevalence, knowledge, attitudes and behaviors associated with self-medication using anxiety drugs among the Saudi Arabian population. The approach was selected to capture a broad snapshot of community-level patterns and to explore associations between sociodemographic variables and medication practices at a single point in time.

Data Collection and Participants

Data were collected through a structured electronic questionnaire disseminated via social media platforms and professional networks between January and February 2025. The questionnaire was available in Arabic to ensure accessibility and clarity. A total of 807 participants were included in the final analysis. Inclusion criteria comprised individuals aged 18 years and older who resided in Saudi Arabia and voluntarily consented to participate. Responses with incomplete data or duplicated entries were excluded to maintain data integrity.

Instrument Design

The questionnaire consisted of four sections:

- Sociodemographic characteristics
- Knowledge and awareness of anxiety disorders and medication side effects
- Attitudes toward self-medication practices
- Self-reported behaviors related to the use of anti-anxiety medications

The instrument was pilot-tested for clarity and face validity with a sample of 30 respondents prior to full distribution.

Statistical Analysis

Descriptive statistics were used to summarize demographic data and response frequencies. Chi-square tests were applied to examine associations between categorical variables, including gender, education level and awareness of anxiety disorders. A significance level of $p<0.05$ was considered statistically significant. All analyses were performed using SPSS software version 26 (IBM Corp., Armonk, NY, USA).

RESULTS

Table 1 presents the demographic characteristics of the participants. The majority of respondents were between the ages of 18-25 (38.46%), followed by those aged 26-35 (22.33%). Gender distribution showed that females comprised 63.10% of the sample, while males accounted for 36.90%. Regarding educational attainment, most participants held a Bachelor's degree (63.40%), with a smaller proportion having a Master's degree (22.10%) or a PhD or higher (9.20%).

As shown in Table 2, a significant majority (84.10%) of respondents reported having heard of anxiety disorders, while 6.90% had not and 9.00% were unsure. When asked about the potential side effects of anxiety medication, the most commonly identified effects were drowsiness (24.90%) and headaches (23.20%), while 16.10% noted dependence or addiction as a risk. Interestingly, 12.00% believed there were no side effects and 23.70% were uncertain.

Table 3 summarizes participants' attitudes toward self-medication. A majority strongly disagreed (35.90%) or disagreed (24.10%) with the notion that self-medication is harmless when recommended by friends or family. Conversely, only 12.50% strongly agreed with this statement. Regarding the effectiveness of therapy over medication for anxiety, a notable proportion of respondents (30.30%) strongly agreed, while 24.30% agreed, suggesting that many favor non-pharmacological interventions.

Table 1: Demographic Information

Category	Frequency	Percentage
Age		
18-25	310	38.46
26-35	180	22.33
36-45	145	17.99
46-55	121	15.01
Under 18	30	3.72
Gender		
Male	297	36.90
Female	509	63.10
Education Level		
Bachelor's Degree	511	63.40
Master's Degree	178	22.10
PhD or Higher	74	9.20

Table 2: Knowledge and Awareness

Response	Frequency	Percentage
Have heard of anxiety disorders		
Yes	678	84.10%
No	56	6.90%
Not Sure	72	9.00%
Side Effects of Anxiety Medication		
Drowsiness	201	24.90%
Dependence or Addiction	130	16.10%
Headaches	187	23.20%
No Side Effects	97	12.00%
Not Sure	191	23.70%

Table 3: Attitudes Toward Self-Medication

Response	Frequency	Percentage
Self-medication is harmless if recommended by friends/family		
Strongly Disagree	290	35.90%
Disagree	194	24.10%
Neutral	123	15.30%
Agree	98	12.20%
Strongly Agree	101	12.50%
Therapy is more beneficial than medication for anxiety		
Strongly Disagree	71	8.80%
Disagree	150	18.60%
Neutral	145	18.00%
Agree	196	24.30%
Strongly Agree	244	30.30%

Table 4: Behavior and Practices

Response	Frequency	Percentage
Ever taken anti-anxiety medication without a prescription?		
Yes	198	24.60%
No	608	75.40%
Reasons for self-medication		
Stress due to exams/work	102	51.50%
Lack of time to see a doctor	47	23.70%
Belief in knowing the right medication	21	10.60%
Advice from friends/family	28	14.20%

Table 5: Chi-Square Test Results

Test	Chi-Square Value	p-Value	Degrees of Freedom
Gender vs. Self-Medication	2.2965	0.1297	1
Education Level vs. Knowledge	29.4813	0.001	10
Awareness vs. Attitudes	1.5094	0.9589	6

As indicated in Table 4, 24.60% of respondents admitted to taking anti-anxiety medication without a prescription, while the majority (75.40%) had not. Among those who self-medicated, stress due to exams or work was the most frequently cited reason (51.50%), followed by a lack of time to visit a doctor (23.70%). Only 10.60% self-medicated due to believing they knew the right medication, while 14.20% did so based on advice from friends or family.

Figure 1 highlights recommendations for mitigating self-medication. The most commonly suggested solution was stronger regulations on pharmacies (35.80%), followed closely by increased public awareness campaigns (32.90%). Easier access to mental health professionals (21.80%) and counseling and educational programs (9.30%) were also proposed as potential interventions.

Table 5 presents the results of the chi-square tests conducted to assess associations between key variables. A significant relationship was found between education level and knowledge of anxiety disorders ($p = 0.001$), suggesting that higher education levels are associated with greater awareness. However, no significant associations were found between gender and self-medication ($p = 0.1297$) or between awareness of anxiety disorders and attitudes toward self-medication ($p = 0.9589$).

This study aimed to examine the prevalence, knowledge, attitudes and behaviors associated with self-medication using anti-anxiety medications in Saudi Arabia. The findings indicate that approximately one in four respondents (24.6%) reported using such medications without a prescription, addressing the core research question regarding the extent of unsupervised psychotropic drug use in the population.

Academic and occupational stress emerged as the most frequently cited driver of self-medication, corroborating prior findings by Chopra *et al.* [4], who observed increased self-medication during periods of heightened anxiety, such as the COVID-19 pandemic [4]. This aligns with broader concerns raised in regional studies, including Alhur *et al.* [8], regarding the systemic nature of medication misuse linked to social pressures and inadequate regulatory enforcement.

Despite high general awareness of anxiety disorders (84.1%), only a minority (16.1%) recognized addiction as a potential side effect of anti-anxiety drugs, revealing a critical gap in specific pharmacological knowledge. This observation supports prior research suggesting that knowledge alone does not equate to safe behavior, particularly when access to prescription medication is unregulated [8]. The persistent uncertainty reported by 23.7% of participants further highlights the need for targeted health education addressing drug dependency and long-term safety.

Attitudes toward self-medication were mixed. While a majority rejected informal recommendations from non-professionals, a notable minority accepted them. Encouragingly, over 54% of respondents favored psychological therapy over pharmacological treatment, reflecting a potential cultural openness to non-drug interventions that could be leveraged in mental health promotion strategies.

The statistical analysis revealed a significant association between education level and awareness of anxiety disorders ($p = 0.001$), supporting findings by Shabbir *et al.* [1] and Alhur *et al.* [8] that link educational attainment to informed health choices. However, the absence of a statistically significant gender-based difference in self-medication behavior ($p = 0.1297$) suggests that this issue spans demographic boundaries and is not confined to specific subpopulations.

Participants proposed several strategies to mitigate self-medication, most notably strengthening pharmacy regulations (35.8%) and launching public awareness campaigns (32.9%). These recommendations are consistent with earlier work by Alsini *et al.* [5] and Albawardi *et al.* [7], both of whom emphasized regulatory reform even among healthcare professionals. Additionally, the need to foster trust in healthcare systems and address digital literacy challenges-previously highlighted by Alhur *et al.* [9-13] remains a relevant consideration, as such factors may discourage formal consultations and inadvertently encourage self-treatment.

Limitations of the study include its reliance on self-reported data, which may be influenced by recall or social desirability bias. The cross-sectional design also limits causal interpretation. Moreover, the online distribution of the survey may have excluded individuals without digital access, potentially underrepresenting certain demographic groups.

Future research should explore longitudinal patterns of self-medication behavior to understand persistence over time, examine healthcare providers' perspectives on public access to anxiety medications and assess the effectiveness of targeted interventions such as digital literacy programs or pharmacy policy changes.

DISCUSSION

This study aimed to examine the prevalence, knowledge, attitudes and behaviors associated with self-medication using anti-anxiety medications in Saudi Arabia. The findings indicate that approximately one in four respondents (24.6%) reported using such medications without a prescription, addressing the core research question regarding the extent of unsupervised psychotropic drug use in the population.

Academic and occupational stress emerged as the most frequently cited driver of self-medication, corroborating prior findings by Chopra *et al.* [4], who observed increased self-medication during periods of heightened anxiety, such as the COVID-19 pandemic [4]. This aligns with broader concerns raised in regional studies, including Alhur *et al.* (2024) [8], regarding the systemic nature of medication misuse linked to social pressures and inadequate regulatory enforcement.

Despite high general awareness of anxiety disorders (84.1%), only a minority (16.1%) recognized addiction as a potential side effect of anti-anxiety drugs, revealing a critical gap in specific pharmacological knowledge. This observation supports prior research suggesting that knowledge alone does not equate to safe behavior, particularly when access to prescription medication is unregulated [8]. The persistent uncertainty reported by 23.7% of participants further highlights the need for targeted health education addressing drug dependency and long-term safety.

Attitudes toward self-medication were mixed. While a majority rejected informal recommendations from non-professionals, a notable minority accepted them. Encouragingly, over 54% of respondents favored psychological therapy over pharmacological treatment, reflecting a potential cultural openness to non-drug interventions that could be leveraged in mental health promotion strategies.

The statistical analysis revealed a significant association between education level and awareness of anxiety disorders ($p = 0.001$), supporting findings by Shabbir *et al.* [1] and Alhur *et al.* [8] that link educational attainment to informed health choices. However, the absence of a statistically significant gender-based difference in self-medication behavior ($p = 0.1297$) suggests that this issue spans demographic boundaries and is not confined to specific subpopulations.

Participants proposed several strategies to mitigate self-medication, most notably strengthening pharmacy regulations (35.8%) and launching public awareness campaigns (32.9%). These recommendations are consistent with earlier work by Alsini *et al.* (2021) and Albawardi *et al.* (2024), both of whom emphasized regulatory reform even among healthcare professionals [5,7]. Additionally, the need to foster trust in healthcare systems and address digital literacy challenges-previously highlighted by Alhur *et al.* [9-13]-remains a relevant consideration, as such factors may discourage formal consultations and inadvertently encourage self-treatment.

Limitations of the study include its reliance on self-reported data, which may be influenced by recall or social desirability bias. The cross-sectional design also limits causal interpretation. Moreover, the online distribution of the survey may have excluded individuals without digital access, potentially underrepresenting certain demographic groups.

Future research should explore longitudinal patterns of self-medication behavior to understand persistence over time, examine healthcare providers' perspectives on public access to anxiety medications and assess the effectiveness of targeted interventions such as digital literacy programs or pharmacy policy changes.

CONCLUSION

This study provides empirical evidence on the prevalence and underlying drivers of self-medication with anxiety drugs in Saudi Arabia, identifying it as a notable public health concern. Approximately one-quarter of respondents reported engaging in unsupervised use of psychotropic medications, underscoring the need for targeted regulatory, educational and clinical interventions.

The findings highlight stress-particularly from academic and occupational sources-as a primary motivator for self-medication and reveal persistent gaps in public understanding of the risks associated with such practices, including drug dependency and adverse effects. Despite high general awareness of anxiety disorders, knowledge of medication safety remains limited, indicating that awareness alone is insufficient to prevent misuse.

Educational attainment was significantly associated with greater awareness, reinforcing the theoretical premise that health literacy plays a critical role in informed decision-making. Moreover, the expressed public support for non-pharmacological interventions and policy reform suggests a readiness for culturally sensitive mental health initiatives.

From a policy perspective, the results advocate for enhanced regulation of pharmacy practices, widespread public health campaigns and expanded access to mental health services. These actions are essential to address misuse at both systemic and individual levels. As the Kingdom advances its Vision 2030 healthcare transformation, integrating evidence-based safeguards around psychotropic drug use will be vital for promoting safe, equitable and sustainable mental health care.

Ethical Statement

Ethical approval for this study was obtained from the Institutional Review Board (IRB) at the University of Hail (Approval No. H-2025-005). Participation was voluntary and informed consent was obtained electronically prior to the initiation of the survey. All responses were anonymous and no identifiable personal data were collected, ensuring participant confidentiality and compliance with data protection standards.

REFERENCES

[1] Shabbir, F. *et al.* "Comparison of Trends of Self-Medication Among Medical and Non-Medical Students in Twin Cities of Pakistan." *Rawal Medical Journal*, vol. 47, no. 3, 2022, pp. 673–676. https://www.rmj.org.pk/index.php?mno=91708.

[2] Turner, Sarah *et al.* "Self-Medication with Alcohol or Drugs for Mood and Anxiety Disorders: A Narrative Review of the Epidemiological Literature." *Depression and Anxiety*, vol. 35, no. 9, July 2018, pp. 851–860. http://dx.doi.org/10.1002/da.22771.

[3] Menary, Kyle R. *et al.* "The Prevalence and Clinical Implications of Self-Medication Among Individuals with Anxiety Disorders." *Journal of Anxiety Disorders*, vol. 25, no. 3, April 2011, pp. 335–339. http://dx.doi.org/10.1016/j.janxdis.2010.10.006.

[4] Chopra, Deepti *et al.* "Prevalence of Self-Reported Anxiety and Self-Medication Among Upper and Middle Socioeconomic Strata Amidst COVID-19 Pandemic." *Journal of Education and Health Promotion*, vol. 10, no. 1, January 2021, pp. 73–0. http://dx.doi.org/10.4103/jehp.jehp_864_20.

[5] Alsini, Albaraa *et al.* "A National Survey of Self-Prescription of Beta-Blockers and Their Relation to Undiscovered Anxiety Among Medical and Pharmacological Students in Saudi Arabia." *Neuropsychiatric Disease and Treatment*, vol. 17, March 2021, pp. 797–807. http://dx.doi.org/10.2147/ndt.s289833.

[6] Aljhani, Sumayah *et al.* "Insomnia and Self-Medication Among Pharmacists in Saudi Arabia." *Current Psychiatry Research and Reviews*, vol. 19, no. 2, July 2023, pp. 182–200. http://dx.doi.org/10.2174/2666082218666220722123532.

[7] Albawardi, Ibrahim M. *et al.* "Self-Prescription with Psychotropic Medications by Healthcare Professionals Working at Mental Health Institutions in Saudi Arabia." *Journal of Family and Community Medicine*, vol. 31, no. 3, July 2024, pp. 230–236. http://dx.doi.org/10.4103/jfcm.jfcm_1_24.

[8] Alhur, Anas *et al.* "Assessing the Awareness of Psychotropic Medications Among the Saudi Population: Benefits, Risks and Prevalence." *Cureus*, vol. 16, no. 8, August 2024, pp. e66818–0. http://dx.doi.org/10.7759/cureus.66818.

[9] Alhur, A. "Understanding the Perspectives of Hail City Population on the Confidentiality and Privacy of Digital Health and Medical Information." *Cureus*, vol. 16, no. 7, July 2024.

[10] Alhur, A. "Impact of Technological Innovations on Healthcare Delivery: A Literature Review of Efficiency, Patient Care and Operational Challenges." *World Journal of Biological and Pharmaceutical Health Sciences*, vol. 18, no. 2, May 2024, pp. 216–219.

[11] Alhur, Anas *et al.* "Assessing the Awareness of Psychotropic Medications Among the Saudi Population: Benefits, Risks and Prevalence." *Cureus*, vol. 16, no. 8, August 2024, pp. e66818–0. http://dx.doi.org/10.7759/cureus.66818.

[12] Alhur, A. *et al.* "Public Knowledge and Concerns about Cancer Risks from Radiology in Saudi Arabia." *Annals of Phytomedicine*, vol. 13, no. 2, 2024, pp. 512–520.

[13] Alhur, A.A. "Public Perspectives on Digital Innovations in Pharmacy: A Survey on Health Informatics and Medication Management." *Journal of Infrastructure Policy and Development*, vol. 8, no. 8, 2024, pp. 5450. DOI:10.24294/jipd.v8i8.5450.